

Bridge rail and wheel guard splices shall be located so that rail and guard members are continuous over a minimum of two posts. Bridge railings and wheel guards shall be installed in sections not less than 12 ft long. Splices shall be shiplapped with the lap equal to 8 in. or the greater side of the piece, whichever is larger.

462.04 MEASUREMENT AND PAYMENT. Piles are excluded. The payment will be full compensation for all timber (treated or untreated) storage and handling, preservative, composite shields, asphalt cement, metal components, drilling holes, and for all material, labor, equipment, tools, and incidentals necessary to complete the work.

462.04.01 Timber structures will be measured and paid for at the Contract unit price per 1000 board feet “MBM”. The computation of quantities will be based on the nominal sizes specified in the Contract Documents and the exact overall net length of pieces remaining in the completed structure. No allowance will be made for waste.

462.04.02 Timber structures will not be measured but will be paid for at the Contract lump sum price.

SECTION 463 — BRICK MASONRY

463.01 DESCRIPTION. This work shall consist of brick laid in full beds of mortar and built to the shapes and dimensions and at the locations specified in the Contract Documents or as directed by the Engineer.

463.02 MATERIALS.

Curing Compound	902.07.03
Brick	903
Mortar	903.06
Fusion Bonded Epoxy	
Powdered Coatings	917.02
Water	921.01
Dove Tail Anchors	As specified in the Contract Documents

Sample Panel. When specified in the Contract Documents, a sample panel measuring a minimum of 24 x 24 in. shall be prepared and delivered to the construction site. The panel shall be typical of the brickwork to be used on the project. The Administration’s approval of the panel shall be received before beginning the brickwork on the project. The sample panel shall remain on the project site and all subsequent brickwork shall be equal in appearance to this approved panel.

463.03 CONSTRUCTION. Unless otherwise specified, all brick masonry shall be laid in level courses with faces plumb, square and true to the dimensions specified. All exposed surfaces shall be smooth. Brick masonry for parapets and end posts shall be laid parallel to the roadway or barrier.

Brick facing shall be constructed as specified in the Contract Documents.

463.03.01 Bond. Unless otherwise specified, brick masonry shall be laid in running bond. Adjoining courses shall be laid to break joints by half brick as nearly as practical.

463.03.02 Bricklaying. All brick shall be sprayed with water to dampen the surface prior to laying. Only fresh plastic mortar shall be used, and it shall be soft and workable when placed on the wall. A layer of mortar shall be spread on the beds and not more than a shallow furrow which can be readily closed by the laying of the brick shall be made in it. All bed and head joints shall be filled solid with mortar. End joints of stretchers and side or cross joints of headers shall be fully buttered with mortar and a shoved joint made so that mortar is squeezed out at the top of the joint. No brick shall be jarred or moved after it has been fully bedded in the mortar. Bricks loosened after the mortar has taken its set shall be removed, cleaned, and relaid with fresh mortar. No broken or chipped brick shall be used in the face. Spalls or bats are not permitted except where necessary to shape around irregular openings or edges. Full bricks shall be placed at ends or corners where possible and the bats used in the interior of the course. In making closures, bricks shorter than the width of a whole brick shall not be used. Whole brick shall be used as headers.

463.03.03 Joints. All joints shall be slushed with mortar at every course, but slushing alone will not be considered adequate for making an acceptable joint. Exterior faces shall be laid up in advance of backing. Exterior faces shall be back plastered or parged with a coat of mortar not less than 3/8 in. thick before the backing is laid up. Prior to parging, all joints on the back of face courses shall be cut flush. Joints shall be 1/4 to 1/2 in. wide. Whatever width is adopted shall be maintained uniformly throughout the work.

463.03.04 Pointing. All exterior head and bed joints shall be tooled with a round tool, slightly larger than the joint, pressed tight against the still plastic mortar so as to provide a concave finish. When nails or line pins are used, the holes shall be immediately plugged with mortar and pointed as soon as the nail or pin is removed.

463.03.05 Cleaning. Upon completion of the work, all exterior surfaces shall be cleaned by scrubbing and washing down with water, or if

necessary, cleaning shall be done with a 5 percent solution of muriatic acid which shall then be rinsed off with liberal quantities of clean fresh water.

463.03.06 Curing. After the work has been laid up and pointed, the exposed surfaces of brick masonry shall be cured by one of the following methods:

- (a) Brick shall be covered with two layers of burlap and kept wet for three days.
- (b) A nonasphalt colorless liquid curing compound shall be applied by means of an approved hand or motor driven spray operated at a pressure between 40 and 60 psi. The liquid compound shall be uniformly applied at a rate of 27 yd²/gal. The material shall be applied so that the exposed surface is completely coated and sealed in one application. At points where the work shows evidence of insufficient coating, additional material shall be added as directed by the Engineer.

463.03.07 Cold Weather Protection. Brick masonry work and pointing are not permitted when there is frost in the brick or when the air temperature is below 50 F, unless the Contractor provides suitable housing, covering and tarpaulins, and heating devices necessary to keep the atmosphere surrounding the masonry at a minimum temperature of 50 F for the curing period.

463.03.08 Backfill. Brick masonry shall not be backfilled before seven days after completion of the section.

463.04 MEASUREMENT AND PAYMENT. The payment will be full compensation for all sample panels, dove tail anchors, curing and for all material, labor, equipment, tools, and incidentals necessary to complete the work.

463.04.01 Brick Masonry for Structures will be measured and paid for at the Contract unit price per square foot.

463.04.02 Brick Masonry for Structures will be measured and paid for at the Contract unit price per cubic yard.

463.04.03 Brick Masonry for Structures will not be measured but will be paid for at the Contract lump sum price.

463.04.04 Brick Masonry Facing will be measured and paid for at the Contract unit price per square foot.

463.04.05 Brick Masonry Facing will be measured and paid for at the Contract lump sum price.

**SECTION 464 — EPOXY PROTECTIVE
COATINGS FOR CONCRETE**

464.01 DESCRIPTION. This work shall consist of furnishing, and applying epoxy protective coatings as specified in the Contract Documents or as directed by the Engineer.

464.02 MATERIALS.

Sand	901.01
Epoxy Protective Coatings	917.01

464.03 CONSTRUCTION. The epoxy protective coating shall not be applied until at least 30 days after forms are removed. All surfaces to be coated shall be abraded by abrasive blasting, water blasting, or other mechanical means to provide a surface profile for improved adhesion. The surface shall be sound, clean, thoroughly dry and free of oil, grease, curing compound, and other foreign matter before applying the first epoxy protective coating. Two coats shall be applied to the specified areas of the structure. The application of each epoxy protective coating shall follow a dry weather period of at least two consecutive days and within the time frame recommended by the manufacturer. Adjacent areas not to be coated shall be masked or otherwise protected to prevent staining.

464.03.01 Mixing and Application. Mixing and application shall conform to the manufacturer’s recommendations. Epoxy coatings shall be applied by brush or roller. Epoxy coatings shall not be applied to piers and abutments until the structural steel masonry plates have been placed.

464.03.02 Coating Requirements. The second epoxy coating on the top surfaces of the piers and abutment bridge seat areas between beams pads shall be sprinkled with an excess of sand while it is still wet. When it has hardened sufficiently to resist marring, the excess sand not adhering to the coatings shall be removed. Areas to be coated are:

- (a) Abutments that are under a transverse joint in the deck shall be coated. The coatings shall be applied to the entire horizontal surface of the abutment bridge seat areas (between and around the beam pads) and all exposed surfaces of the beam pads, and the entire contiguous vertical faces of the backwalls and cheek walls.